



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,553	10/31/2000	Hiroki Tanaka	Q61563	7370

7590 01/02/2004
SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3202

EXAMINER

FAN, CHIEH M

ART UNIT	PAPER NUMBER
----------	--------------

2634

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/699,553

Applicant(s)

TANAKA, HIROKI

Examiner

Chieh M Fan

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 12 and 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the present application is too long.

Art Unit: 2634

3. The disclosure is objected to because of the following informalities:
- a. the applicant needs to fill in the blank in line 16 of page 6, and
 - b. it appears that "correlator #0" in line 9 of page 27 should be changed to --- correlator #1 ---.

Appropriate correction is required.

Claim Objections

4. Claims 1-5 and 7-10 are objected to because of the following informalities:

Regarding claims 1-5, "a second-stage correlators" in line 17 of claim 1 should be changed to --- second-stage correlators ---. Appropriate correction is required.

Regarding claims 3, 7 and 8, the claimed "and so on" (line 16 in claim 3, line 21 in claim 7, line 17 in claim 8) is not a clear claim language. The applicant is suggested to amend such limitation so as to clearly describe the invention.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 6-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification never teaches that the correlation value storage memory controller controls reading-out of the correlation value from said received signal storage memory as recited in step (i) of claim 6. Further, the specification never teaches second-stage correlators calculates correlation values between the correlation values read out from said correlation value storage memory controller and said signature pattern stored in said signature pattern storage unit as recited in step (k) of claim 6.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-5 and 7-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitation "first-stage correlators taking correlation between M received signals spaced apart from one another by every K chips" recited in lines 12-13 does not seem to be consistent with the preamble of the claim. The preamble of the claim indicates that the device only receives one received signal (see line 2 and line 10). It appears that the limitation "M received signals" should be changed to --- M received signal samples ---. Similarly, it appears that "M spread code sequences" in line 14 should be changed to --- M spread code sequence samples ---.

Regarding claim 2, claim 2 recites the limitation "the fixed pattern generator" in line 1 (the applicant is reminded claim 3 also recites such limitation in line 1). There is insufficient antecedent basis for this limitation in the claim. Further, the limitation "a spread sequence of a length M obtained on decimating and re-arraying a spread code sequence of a length L generated by a spread code generator at every K chips" in lines 3-6 is rather confusing. Such limitation conflicts with the limitation " M spread code sequences obtained on jumping a spread code sequence of a length N by every K th chip" recited in lines 14-15 of claim 1 (emphasis added).

Regarding claim 3, it is not clear whether the limitation "said correlators" recited in line 3 is referred to the "first-stage correlators" (line 12 of claim 1, line 3 of claim 2) or the "second-stage correlators" (line 17 of claim 1). Similarly, it is not clear which correlator the claimed limitation "said correlator" (see lines 11-12 and line 18) is referred to.

Regarding claim 4, claim 4 recites the limitation "said K correlator blocks" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 5, claim 5 recites the limitation "said K correlator blocks" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 7, it is not clear whether the limitation "said correlators" recited in line 9 is referred to the " $L/K+1$ correlators" (line 6 of claim 7) or "first-stage correlators" (line 21 of claim 6) or the "second-stage correlators" (line 41 of claim 6). Similarly, it is not clear which correlator the claimed limitation "said correlator" (see lines 15-16) is referred to.

Regarding claim 8, claim 8 recites the limitation "the fixed pattern generator" in line 1 (the applicant is reminded claim 9 also recites such limitation in line 1). There is insufficient antecedent basis for this limitation in the claim. Similarly, it is not clear which correlator the claimed limitation "said correlator" (see lines 11-12) is referred to.

Regarding claim 11, claim 11 recites the limitation "said signature patterns" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 13, the scope of claim 13 cannot be determined because claim 13 recites "... as defined in any one of claim 1" in line 2.

Regarding claim 14, claim 14 recites the limitation "said received signal" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. Further, the limitation "first-stage correlators taking correlation between M received signals spaced apart from one another by every K chips" recited in lines 12-13 does not seem to be consistent with the preamble of the claim. The preamble of the claim indicates that the device only receives one received signal (see lines 3-4). It appears that the limitation "M received signals" should be changed to --- M received signal samples ---. Similarly, it appears that "M spread code sequences" in line 14 should be changed to --- M spread code sequence samples ---.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zhou et al. (U.S. Patent No. 5,844,937), Blanchard et al. (U.S.

Application/Control Number: 09/699,553
Art Unit: 2634

Page 7

Patent No. 5,764,690), Cangiani et al. (US 2003/004801), Arima (US 2001/0019578), Iwasaki (JP 2001-94468), Nakamura (JP 10-215240).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (703) 305-0198. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703) 305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Chieh M Fan
Primary Examiner
Art Unit 2634

cmf
December 28, 2003